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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,375	02/10/2004	Kensaku Shinozaki	042099	9529

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT PAPER NUMBER

1775

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,375

Applicant(s)

SHINOZAKI, KENSAKU

Examiner

Michael La Villa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040210, 20040622
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS 20040715

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-6, drawn to a copper foil, classified in class 428, subclass 674.
 - II. Claim 7, drawn to a method of making a copper foil by roughening treating, classified in class 205, subclass 220.
 - III. Claims 8 and 9, drawn to a method of making a copper foil by burnt plating, classified in class 205, subclass 83 or 239.
2. The inventions are distinct, each from the other because of the following reasons:
3. Inventions of Group I and of Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the products of Group I may be made by the processes of Group III, rather than Group II. Alternatively, the products of Group I may be made by sputtering deposition processes.
4. Inventions of Group I and of Group III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and

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materially different process (MPEP § 806.05(f)). In the instant case the products of Group I may be made by the processes of Group II, rather than Group III.

Alternatively, the products of Group I may be made by sputtering deposition processes.

5. Inventions of Group II and of Group III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions relate to different roughening methods. The method of Group III demands particular surface profile starting foil and involves a bath composition that shares no similarity with that claimed for the method of Group II.
6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
7. Because these inventions are distinct for the reasons given above and the search required for each of the groups in Groups I-III is not required for each of the other groups of Groups I-III, restriction for examination purposes as indicated is proper.
8. During a telephone conversation with Mr. Hattori on 28 July 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office

action. Claims 7-9 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

9. Reference JP 52-17336 of the IDS 20040210 has not been considered at this time because its citation in the Specification could not be found, and so its relevance cannot be determined.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:
11. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
12. Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- I. Regarding Claims 5 and 6, it is unclear what is meant by the phrase "according to necessity." Does this refer to the provision of any treatment or to whether one or the other treatments is to be provided?

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
14. A person shall be entitled to a patent unless –
15. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
16. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

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351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.


17. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. JP 11-256389. Suzuki et al. teaches roughen treating a copper foil by burnt plating in the manner claimed to obtain the claimed layering order and composition. See Suzuki (paragraphs 12-16, 24, 25, and 27-38). Suzuki does not mention that the pre-roughened copper foil possesses the claimed Rz values of Claim 1 or the grain structure of Claim 2. However, since the extent of roughening of applicant's product-by-process claims is unspecified and may therefore be extensive, there is no necessary resulting surface roughness quality that must be reflected in the roughened product covered by the claims. Thus, the pre-roughening requirements need not be reflected in the product obtained by the claimed product-by-process limitation. Hence, the subject matter claimed is deemed to encompass that of Suzuki, notwithstanding the absence of disclosure of the pre-roughened surface qualities of the foils of Suzuki, since Suzuki teaches the claimed layering order and composition.

18. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Nakaoka USPA 2004/0043242. Nakaoka teaches roughen treating a very flat copper foil, wherein the copper foil would be expected to obtain the surface roughness properties claimed in Claim 1 prior to the roughening treatment. Being very smooth, there would not be expected the pyramids and the surface Rz values meet the claimed limitation. See Nakaoka (Abstract; paragraphs 32-38 and 44).

CONCLUSION

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa
8 August 2005



MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER